The 113th ICR Annual Symposium

THE 113TH ICR ANNUAL SYMPOSIUM

(13 December 2013)

ORAL PRESENTATION

IWASHITA, Yoshihisa (Particle Beam Science)
"Accelerator and Science"

NISHIDA, Koji (Polymer Materials Science)
"Non-equilibrium Property in Crystalline Polymer Elucidated by Rapid Temperature Variation Method and Its Application to Structural Control"

KUO, Ting-Fang (Chemical Biology)
"A Chemical Probe for Human Pluripotent Stem Cells"

HAYASHIDA, Morihiro (Mathematical Bioinformatics)
"EnuMol: Enumeration System for Chemical Compounds"

–ICR Award for Young Scientists–
YOSHIMURA, Tomoyuki (Synthetic Organic Chemistry)
"Asymmetric Induction via Short-lived Chiral Enolates with a Chiral C-O Axis"

–ICR Award for Young Scientists (Foreign Researchers' Category)–
KIM, Kab-Jin (Nanospintronics)
"Two-barrier Stability that Allows Low-power Operation in Current-induced Domain-wall Motion"

−ICR Award for Graduate Students−
WASANO, Tatsuya (Organoelement Chemistry)
"Syntheses and Structures of an "Alumole" and its Dianion"

TAKANO, Shotaro (Hydrospheric Environment Analytical Chemistry)
"Determination of Isotopic Composition of Dissolved Copper in Seawater by Multi-collector Inductively Coupled Plasma Mass Spectrometry after Pre-concentration Using an Ethylenediaminetriacetic Acid Chelating Resin"

–ICR Grants for Young Scientists–
AGOU, Tomohiro
"Development of Catalysts for Small Molecule Activation Based on the Characteristics of Heavier Group 14 Elements"

WAKAMIYA, Atsushi
"Development of Charge-transporting Materials Using Quasi-planar Structure as a Key Scaffold"

TEX, David
"Towards Green Optoelectronic Devices Using Quantum Disks"

MASAI, Hirokazu
"Study on Emission Mecahnism of Oxide Glass Phosphor Containing ns^2-Type Emission Center"

KAWAMOTO, Jun
"Study of Physiological Function of Long-chain Polyunsaturated Fatty Acids by *in-situ* Chemical Modification"

POSTER PRESENTATIONS

LW : Laboratory Whole Presentation
LT : Laboratory Topic
GE : General Presentation

— Organoelement Chemistry —

LW "Studies on the Synthesis and Properties of Novel Organic Compounds Containing Heavier Elements"

— Structural Organic Chemistry —

LW "Research Activities in Structural Organic Chemistry Laboratory"

GE ENDO, Masaru; SASAMORI, Takahiro; WAKAMIYA, Atsushi; TOKITOH, Norihiro; MURATA, Yasujiro
"Preparation of Efficient Organic-Inorganic Hybrid Solar Cells"

GE MURATA, Michihisa; SUGANO, Yasunori; WAKAMIYA, Atsushi; MURATA, Yasujiro
"Synthesis and Properties of π-Extended Pyracylene"

— Synthetic Organic Chemistry —

LW "Research in Laboratory of Synthetic Organic Chemistry ～ Toward the Development of Attractive Molecular Transformation ～ "

GE YANAGI, Masanori; UEDA, Yoshihiro; FURUTA, Takumi; KAWABATA, Takeo
"Regioselective Deoxygenation of Sugars"

— Advanced Inorganic Synthesis —

LW "Research Activities in Advanced Inorganic Synthesis"

GE SATO, Ryota; TRINH, Thang Thuy; TERANISHI, Toshiharu
"Fabrication of $L1_0$-FePd/α-Fe Nanocomposite Magnets"

GE SAKAMOTO, Masanori; TANAKA, Daisuke; TERANISHI, Toshiharu
"Rigid Bidentate Ligands Focus the Size of Gold Nanoparticles"

— Chemistry of Polymer Materials —

LW "Research Activities in the Laboratory of Chemistry of Polymer Materials"

GE KINOSE, Yuji; SAKAKIBARA, Keita; OHNO, Kohji; TSUJII, Yoshinobu
"Synthesis of Cellulosic Bottle Brush with Regioselectively Substituted Side Chains"

— Polymer Controlled Synthesis —

LW "Research Activity of Polymer Controlled Synthesis Laboratory"

GE ZHAI, Xue; KAYAHARA, Eiichi; YAMAGO, Shigeru
"Synthesis of Sulfur-Containing Cycloparaphenylene Analogues from Cyclic Organoplatinum Complexes and Their Physical Properties"

GE FUJITA, Takehiro; YAMAGO Shigeru
"Stereospecific Radical Polymerization of Acrylimides Bearing Chiral Oxazolidinones in the Presence of Lewis Acid"

— Inorganic Photonics Materials —

GE HINO, Yusuke; MASAI, Hirokazu; TOKUDA, Yomei; YOKO, Toshinobu
"Correlation between Co-activator and Emission Property in SnO-ZnO-P_2O_5 Glasses"

GE MIYATA, Hiroki; MASAI, Hirokazu; TOKUDA, Yomei; YOKO, Toshinobu
"Fabrication of Light Emitting Amorphous Thin Film in the System of SnO-ZnO-P_2O_5 via Liquid Phase Synthesis"

GE MINAMI, Tomohiro; TOKUDA, Yomei; MASAI, Hirokazu; YOKO, Toshinobu
"Structure Analysis of Alkali Ion in Mixed Alkali Silicate Glasses"

GE UTSUMI, Nihiro; TOKUDA, Yomei, MASAI, Hirokazu; YOKO, Toshinobu
"Titano-borosilicate Hybrid Materials Prepared by Solventless Ethanol Condensation"

— Nanospintronics —

GE NAGATA, Masaki; MORIYAMA,Takahiro; TANABE, Kenji; CHIBA, Daichi; ONO, Teruo
"Spin Motive Force Induced in Magnetite Thin Films"

GE HATA, Hiroshi; HIRAMATSU, Ryo; TANIGUCHI, Takuya; KOYAMA, Tomohiro; CHIBA, Daichi; KIM, Kab-Jin; MORIYAMA, Takahiro; ONO, Teruo
"Quantitative Estimation of Antisymmetric Exchange Interaction by Spin Wave Resonances"

GE NISHIHARA,Yoshitaka; ONO, Teruo; ARAKAWA, Tomonori; TANAKA, Takahiro; NORIMOTO, Shota; KOBAYASHI, Kensuke
"Shot Noise at a Quantum Point Contact on a High-electron-mobility Transistor"

GE HIRAMATSU, Ryo
"Observation of Metastable Bound State between Domain Walls in an Asymmetric Co/Ni Nanowire"

— Biofunctional Design-Chemistry —

LW "Research Activities in Biofunctional Design Chemistry"

GE TSUJI, Shogo; IMANISHI, Miki; FUTAKI, Shiroh
"Directed Evolution of a TALE Protein for Unconstrained DNA Binding"

— Chemistry of Molecular Biocatalysts —

LW "Recent Activities of Laboratory of Chemistry of Molecular Biocatalysts"

GE KAWANISHI, Daisuke; KOEDUKA, Takao; SUGIMOTO, Koichi; OZAWA, Rika; TAKABAYASHI, Zyunzi; WATANABE, Bunta; HIRATAKE, Jun
"Structure and Biological Activities of Prenylated Phenylpropanoids"

GE LI, Chunjie; KOEDUKA, Takao; WATANABE, Bunta; HIRATAKE, Jun
"Development of Strong Mechanism-Based Carbamate Inhibitors of Human Gamma-Glutamyl Transpeptidase"

— Molecular Biology —

LW "Research Topics from the Molecular Biology Laboratory"

— Chemical Biology —

GE WANG, Chenyu; KUSUMOTO, Atsushi; KATO, Nobuo; UESUGI, Motonari; OHKANDA, Junko
"Design and Synthesis of Fusicoccin-J-based Chemical Probes for Elucidation of Structural Effects on 14-3-3 Labeling"

— Molecular Materials Chemistry —

LW "Research Activities in Molecular Materials Chemistry Laboratory"

GE OHTSUKI, Akimichi; GOTO, Atsushi; KAJI, Hironori
"Photo-Induced Controlled Radical Polymerization with Organic Catalysts in a Wide Range of Wavelengths"

GE SUZUKI, Hajime; FUKUSHIMA, Tatsuya; KAJI, Hironori
"Degradation Analysis of Blue Phosphorescent Organic LEDs by Solution NMR Spectroscopy"

— Hydrospheric Environment Analytical Chemistry —

GE KONAGAYA, Wataru; MINAMI, Tomoharu; SOHRIN, Yoshiki
"Ocean Sections and Stoichiometry of Dissolved Bioactive Trace Metals in the North Pacific Ocean"

GE KAWAHARA, Shimpei; UMETANI, Shigeo; SOHRIN, Yoshiki
"Solid-phase Extraction of Alkali Metal Ions with Solvent Impregnated Resins Containing Strongly Acidic β-Diketones and Neutral Ligand"

— Solution and Interface Chemistry —

GE WAKAI, Chihiro; SHIMOAKA Takafumi; HASEGAWA, Takeshi
"NMR Studies on Water Molecules Adsorbed on Nafion Film by Spin-Lattice Relaxation Time and Chemical Shift Measurements"

GE SHIMOAKA, Takafumi; RIKIYAMA, Kazuaki; KATSUMOTO, Yukiteru; WAKAI, Chihiro; HASEGAWA, Takeshi
"Effects of Molecular Water on the Secondly Structure of Poly(*N*-isopropylacrylamide) with a High Isotacticity in an Acetone Solution Studied by Infrared and NMR Spectroscopies"

— Molecular Microbial Science —

LW "Laboratory of Molecular Microbial Science"

GE CHO, Hyun-Nam; KAWAMOTO, Jun; KURIHARA, Tatsuo
"Subcellular Localization and Physiological Function of 1-Acyl-*sn*-glycerol-3-phosphate Acyltransferase of EPA-producing Bacterium, *Shewanella livingstonensis* Ac10"

— Polymer Materials Science —

LW "Reserach Progress in the Laboratory of Polymer Materials Science"

GE HIRANO, Tatsumasa; NISHIDA, Koji; ASAKAWA, Harutoshi; INOUE, Rintaro; KANAYA, Toshiji
"Crystallization Behavior of Isotactic Polypropylene from Mesophase"

GE NABATA, Takeshi; INOUE, Rintaro; NISHIDA, Koji; KANAYA, Toshiji
"Observation of Structure Formation in Isotactic Polystyrene for Glass and Cold Crystallization"

GE MATSUURA, Tomohiko; INOUE, Rintaro; NISHIDA, Koji; KANAYA, Toshiji
"Precursor in Shear-induced Polymer Crystallization"

— Molecular Rheology—

LW "Research Activities in Molecular Rheology Laboratory"

— Molecular Aggregation Analysis —

GE ASAMI, Koji
"Electrical Properties of *E. coli* Cells Revealed by Dielectric Spectroscopy"

GE YOSHIDA, Hiroyuki
"New Experimental Method to Examine Unoccupied States and Electron Affinities of Organic Semiconductors"

— Interdisciplinary Chemistry for Innovation —

LW "Research Activities of Interdisciplinary Chemistry for Innovation"

— Particle Beam Science —

LW "Present Status of Accelerator Laboratory for Beam Science"

GE KITAHARA, Ryunosuke; IWASHITA, Yoshihisa; KITAGUCHI, Masaaki; SHIMIZU, Hirohiko
"Hg co-magnetometer for Measurement of Neutron Electric Dipole Moment"

— Laser Matter Interaction Science —

LW "Recent Research at Laser Matter Interaction Science"

GE IKEDA, Daiki; INOUE, Shunsuke; HATA, Masayasu; HASHIDA, Masaki; SAKABE, Shuji
"Characteristics of Electrons Accelerated by Intense Femtosecond Laser Pulsesβα"

GE KAWAMOTO, Mao; HASHIDA, Masaki; MIYASAKA, Yasuhiro; SHIMIZU, Masahiro; HATA, Masayasu; INOUE, Shunsuke; TOKITA, Shigeki; SAKABE, Shuji
"Femtosecond Laser Coloring of Metal Surface"

GE HATA, Masayasu; INOUE, Shunsuke; IKEDA, Daiki; TERAMOTO, Kensuke; NAKASHIMA, Yuto; MORI, Kazuaki
"Computer Simulation of High-intense Femtosecond Laser Plasma Interaction"

GE MORI, Kazuaki; HASHIDA, Masaki; NAGASHIMA, Takeshi; INOUE, Shunsuke; TOKITA, Shigeki; HANGYO, Masanori; SAKABE, Shuji
"THz Generation from Plasma Produced by the Interaction of Intense Laser with Clusters"

GE MIYASAKA, Yasuhiro; HASHIDA, Masaki; NISHII, Takaya; INOUE, Shunsuke; SAKABE, Shuji
"Mechanism of Femtosecond Laser Nano Ablation for Metals ～ Dependence of Ablation Rate on Polarization for Oblique Incidence ～ "

— Electron Microscopy and Crystal Chemistry—

LW "Researches in Laboratory of Electron Microscopy and Crystal Chemistry"

GE FUJIYOSHI, Yoshifumi; KARIYA, Ayuta; NEMOTO, Takashi; KURATA, Hiroki
"The Dielectric-substrate Effect for the Localized Surface Plasmon (LSP) Excited Around an Ag Nanoparticle"

— Structural Molecular Biology —

LW "Introduction of Structural Molecular Biology Laboratory"

— Organic Main Group Chemistry —

LW "Researches in Laboratory of Organic Main Group Chemistry"

GE YOSHIDA, Ryota; ISOZAKI, Katsuhiro; YOKOI, Tomoya; TAKENAKA, Toshio; TAKAYA, Hikaru; NAKAMURA, Masaharu
"Ruthenium Complex-Bound Norvaline-Catalyzed Oxidation of Electron-Rich Aromatic Compounds with Hydrogen Peroxide"

GE NAKAJIMA, Sho; HASHIMOTO, Toru; NAKAGAWA, Naohisa; IMAYOSHI, Ryuji; GOWER, Nicholas J.; ADAK, Laksmikanta; HONMA, Tetsuo; SUNADA, Yusuke; NAGASHIMA, Hideo; ISOZAKI, Katsuhiro; HATAKEYAMA, Takuji; TAKAYA, Hikaru; NAKAMURA, Masaharu
"The Structure and Reactivity of Aryl-Iron Intermediate in Iron-Catalyzed Cross-Coupling Reaction"

— Advanced Solid State Chemistry —

LW "Introduction of the Laboratory of Advanced Inorganic Chemistry"

GE HIRAI, Kei; KAN, Daisuke; ICHIKAWA, Noriya; MIBU, Ko; SHIMAKAWA, Yuichi
"Metal-insulator Transition in $SrFeO_{2.875}$ Epitaxial Thin Films"

— Organotransition Metal Chemistry —

LW "Activity Report: Organotransition Metal Chemistry Laboratory"

GE WAKIOKA, Masayuki; ICHIHARA, Nobuko; KITANO, Yutaro; OZAWA, Fumiyuki
"A Highly Efficient Catalyst for the Synthesis of Alternating Copolymers via Direct Arylation Polymerization"

— Photonic Elements Science —

LW "Recent Research at Photonic Elements Science"

— Chemical Life Science —

LW "Recent Development of the Life Science Database for the Data Integration and Improved Usage in the Big-data Era"

GE MUTO, Ai; OZAKI, Katsuhisa; GOTO, Susumu; KOTERA, Masaaki
"Construction of an Ortholog Database of Lepidopteran Insects"

— Mathematical Bioinformatics —

GE ZHAO, Yang
"Flux Balance Impact Degree: A New Definition of Impact Degree to Properly Treat Reversible Reactions in Metabolic Networks"

— Bio-knowledge Engineering —

GE NGUYEN, Hao Canh; MAMITSUKA, Hiroshi
"Discriminative Graph Embedding for Label Propagation"

— Nano-Interface Photonics —

LW "Recent Research Topics in Nanointerface Photonics Group"

—Research Center for Low Temperature and Materials Sciences —

GE TERASHIMA, Takahito
"Control of Inversion Symmetry Breaking in Artificially Engineered Superlattices of Heavy Fermion Superconductor"